

# Work Order ID 85471

June-08-12 10:05:32 AM

**\*85471\***

Page 1

Item ID: D3065-7

Accept

**\*N900040100\***

Setup Start

**\*NS1\***

Revision ID:

Item Name: Step Spacer

Stop

**\*NS2\***

Start Date: 08/06/2012 Start Qty: 40.00

**\*40\***

Cust Item ID:

Required Date: 22/06/2012 Req'd Qty: 40.00

**\*40\***

Customer:

Reference:

Approvals:

Process Plan: MLJ

Date: 12/06/08 Tooling:

Date:

Run Start

**\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop

**\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

D3065

Rev B

40

100

0.00

**\*100\***

FLOW WATER JET

Waterjet

Memo

0.00

FLOW CNC Waterjet

1-Cut as per Dwg D3065 Dwg Rev: B Prog Rev: B 2-  
Deburr if necessary

B12-6-18

2039 . 040

110

QC2- Inspect parts off machine FAI/FAIB

0.00

**\*110\***

QC

Memo

0.00

Quality Control

B12-6-18

120

QC8- Inspect parts - second check

0.00

**\*120\***

QC

Memo

0.00

Quality Control

8/2/08/18

counts  
40

# Work Order ID 85471

**\*85471\***

Page 2

Item ID: D3065-7

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Step Spacer

Start Date: 08/06/2012 Start Qty: 40.00

**\*40\***

Cust Item ID:

Required Date: 22/06/2012 Req'd Qty: 40.00

**\*40\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 <b>*130*</b> Small Fab	Small Fab	0.00							
Small Fab	Memo Deburr if necessary.	0.00							
140 <b>*140*</b> Brake NC	NC BRAKE	0.00							
Brake NC	Memo Bend as per Dwg D3065	0.00							
150 <b>*150*</b> QC	QC5- Inspect part completeness to step on W/O	0.00							
Quality Control	Memo	0.00							

39

12/06/19  
12/06/20

39

12/06/21

NCR: Yes / No

## WORK ORDER NON-CONFORMANCE / UPDATE

DQA: *[Signature]*

Date: 12/26/17

QA Closed: *[Signature]*

Date: 12/16/17

Work Order: <u>85471</u> Part No. <u>D3065-7</u> NCR No. <u>12-1581</u>				<b>DISPOSITION</b> Rework <input type="checkbox"/> Scrap <input checked="" type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		<b>AGAINST DEPARTMENT/PROCESS</b> <div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/>            Machining <input type="checkbox"/>            Thermoforming <input type="checkbox"/>            Large Fab <input type="checkbox"/> </div> <div>           Crosstube <input type="checkbox"/>            Small Fab <input checked="" type="checkbox"/>            Finishing <input type="checkbox"/>            Composite <input type="checkbox"/> </div> <div>           Prod. Eng. Coord. <input type="checkbox"/>            Rec/Store/Packaging <input type="checkbox"/>            Supplier <input type="checkbox"/>            Other <input type="checkbox"/> </div> <div>           Engineering Quality <input type="checkbox"/>  <input type="checkbox"/>  <input type="checkbox"/> </div> </div>					
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data <input type="checkbox"/>	12/16/17	100	el	1 piece cut off from water-jet led a defect	DAS 18 0-08 QSZUR	Scrap - another non piece  \$7.35	Su 12/16/17	12/16/17	QSZUR		
Equip/Tooling <input type="checkbox"/>											
Operator <input type="checkbox"/>											
Material <input type="checkbox"/>											
Offset/Setup <input type="checkbox"/>											
Other <input type="checkbox"/>											
Process <input checked="" type="checkbox"/>											
Supplier <input type="checkbox"/>											
Training <input type="checkbox"/>											
Unauthorized <input type="checkbox"/>											

FAULT CATEGORY			
<b>Landing Gear</b> <input type="checkbox"/> Bending Passes Below Min <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimp at Bending <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Other <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Ripples on Inner Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>Hardware</b> <input type="checkbox"/> Breaking <input type="checkbox"/> Missing <input type="checkbox"/> Size/Length <input type="checkbox"/> Spinning <input type="checkbox"/> Threading <input type="checkbox"/> Wrong  <b>Drill Holes</b> <input type="checkbox"/> Misaligned <input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Undersized <input type="checkbox"/> Too Many	<b>General</b> <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Documentation/Data <input type="checkbox"/> Finish <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Inspection Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Jigs/Fixtures/Tooling <input type="checkbox"/> Kit Incorrect <input type="checkbox"/> Kit Missing	<input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Off-Set <input type="checkbox"/> Orientation Misread <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Lost <input checked="" type="checkbox"/> Part Moved <input type="checkbox"/> Raw Material  <input type="checkbox"/> Set-up <input type="checkbox"/> Supplier <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other

**\*85471\***

Page 3

\*N900040100\*

Setup Start \*NS1\*

Stop \*NS2\*

**Start Date:** 08/06/2012    **Start Qty:** 40.00

**\*40\***

**Cust Item ID:**

**Required Date:** 22/06/2012      **Req'd Qty:** 40.00

**\*40\***

**Customer:**

**Reference:**

**Approvals:**      **Process Plan:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Tooling:** \_\_\_\_\_ **Date:** \_\_\_\_\_

Run Start \*NR1\*

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop \*NR2\*

Accept Qty	Reject Qty	Reject Number	Insp. Stamp

Chemical Conversion Coat per QSI005 4.1

0.00

**\*160\***

HandFinish

## Memo

0.00

## Hand Finishing

### QC3- Inspect Part Finish

0.00

**\*170\***

QC

## Memo

0.00

## Quality Control

180

Identify as per dwg & Stock Location

0.00

**\*180\***

## Packaging

## Memo

0.00

## Packaging

**Work Order ID 85471****\*85471\***

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June-08-12 10:05:32 AM

Item ID: D3065-7

Accept

**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Item Name: Step Spacer

Stop **\*NS2\***

Start Date: 08/06/2012 Start Qty: 40.00

**\*40\***

Cust Item ID:

Required Date: 22/06/2012 Req'd Qty: 40.00

**\*40\***

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start **\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop **\*NR2\***Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

190

QC21- Final Inspection - Work Order Release

0.00

**\*190\***

QC

Memo

0.00

Quality Control

CK 12/7/12

R1207-11

# Picklist Print

June-08-12 10:05:36 AM

Page 1

Work Order ID: 85471

\*85471\*

Parent Item: D3065-7

\*D3065-7\*

Parent Item Name: Step Spacer

Start Date: 08/06/2012

Required Date: 22/06/2012

Start Qty: 40.00

Required Qty: 40.00

Comments: IPP: C02.11.01Incorporated D3066-1 IPPKJ/RF  
IPP Rev:D Now on Water Jet 06-04-11 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M2024T3S.040		Purchased	No			100	sf	123.1112	0.1574	6.627368			

\*M2024T3S 040\*

2024-T3 .040 sheet

\*\*

B12-6-18

Location

Loc Qty

Loc Code

MAT022

123.1111626

120196

25.85

120605

64.7627416

121197

32.498421

126 195

(40)

NCR: Yes / No

**WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order: _____  Part No. _____  NCR No. _____				<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		<b>AGAINST DEPARTMENT/PROCESS</b>  <div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/>            Machining <input type="checkbox"/>            Thermoforming <input type="checkbox"/>            Large Fab <input type="checkbox"/> </div> <div>           Crosstube <input type="checkbox"/>            Small Fab <input type="checkbox"/>            Finishing <input type="checkbox"/>            Composite <input type="checkbox"/> </div> <div>           Prod. Eng. Coord. <input type="checkbox"/>            Rec/Store/Packaging <input type="checkbox"/>            Supplier <input type="checkbox"/>            Other <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/>            Quality <input type="checkbox"/>    <input type="checkbox"/>  <input type="checkbox"/> </div> </div>					
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data <input type="checkbox"/>											
Equip/Tooling <input type="checkbox"/>											
Operator <input type="checkbox"/>											
Material <input type="checkbox"/>											
Offset/Setup <input type="checkbox"/>											
Other <input type="checkbox"/>											
Process <input type="checkbox"/>											
Supplier <input type="checkbox"/>											
Training <input type="checkbox"/>											
Unauthorized <input type="checkbox"/>											

FAULT CATEGORY				
<b>Landing Gear</b> <input type="checkbox"/> Bending Passes Below Min <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimp at Bending <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Other <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Ripples on Inner Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>Hardware</b> <input type="checkbox"/> Breaking <input type="checkbox"/> Missing <input type="checkbox"/> Size/Length <input type="checkbox"/> Spinning <input type="checkbox"/> Threading <input type="checkbox"/> Wrong  <b>Drill Holes</b> <input type="checkbox"/> Misaligned <input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Undersized <input type="checkbox"/> Too Many	<b>General</b> <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Documentation/Data <input type="checkbox"/> Finish <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Inspection Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Jigs/Fixtures/Tooling <input type="checkbox"/> Kit Incorrect <input type="checkbox"/> Kit Missing	<input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Off-Set <input type="checkbox"/> Orientation Misread <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Lost <input type="checkbox"/> Part Moved <input type="checkbox"/> Raw Material	<input type="checkbox"/> Set-up <input type="checkbox"/> Supplier <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled  <input type="checkbox"/> Other _____ _____ _____



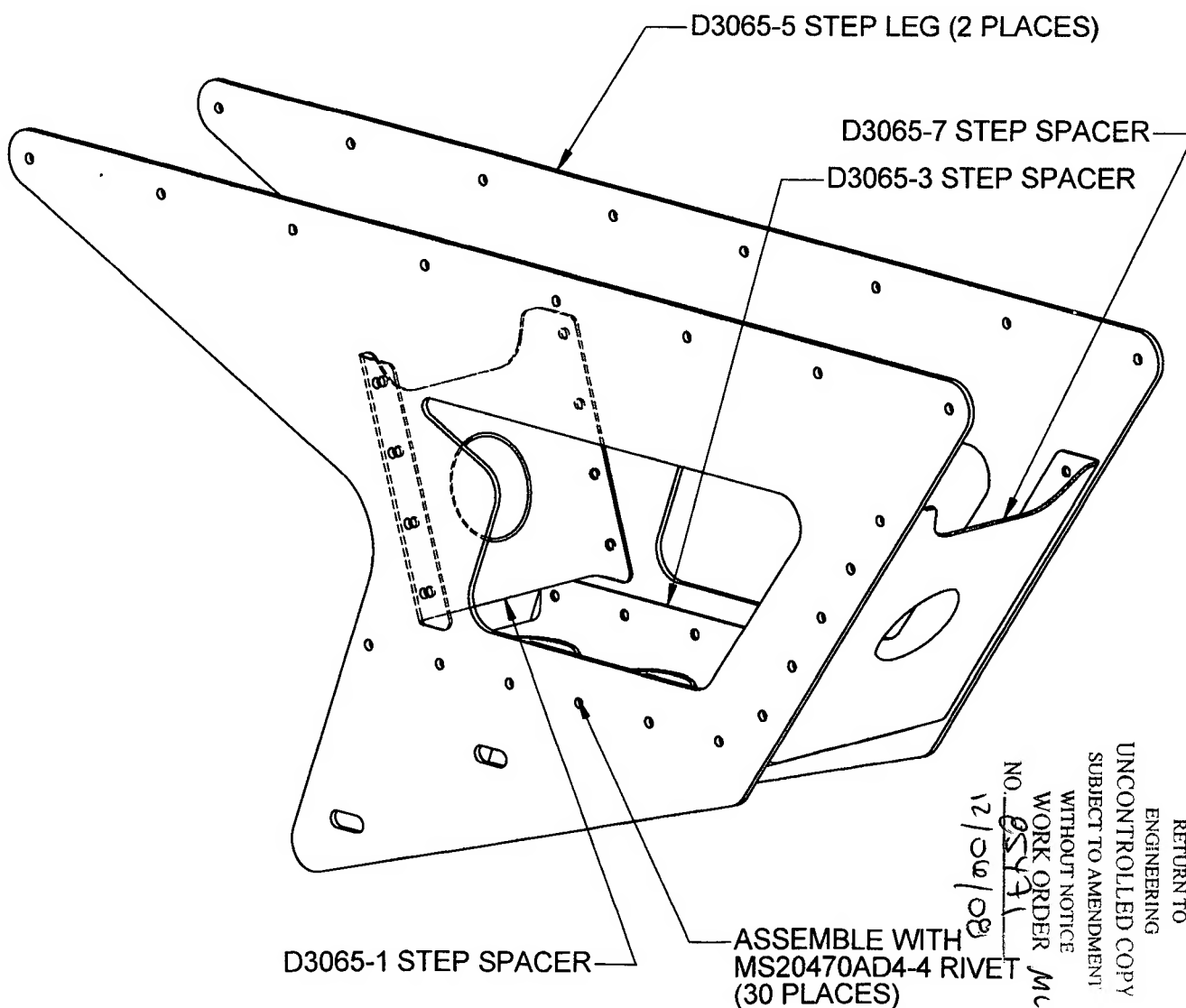




DESIGN <i>CP</i>	DRAWN BY <i>CB</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>PH</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3065	REV. B SHEET 1 OF 5
DATE 06.05.23	TITLE STEP LEG ASSEMBLY SCALE 1:2		
A	02.09.11	NEW ISSUE	
B	06.05.23	ADD 6061-T6 MATERIAL, ADD SLOTS TO D3065-5	

RELEASED

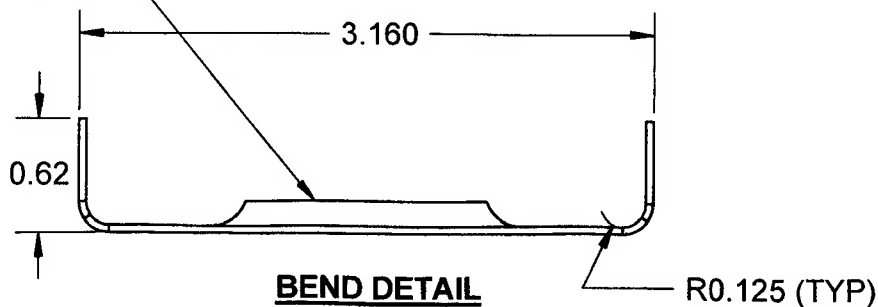
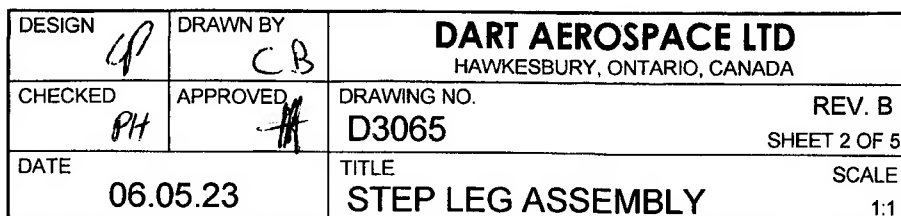
*06-06-20* *[Signature]*



## D3065-041 STEP LEG ASSEMBLY

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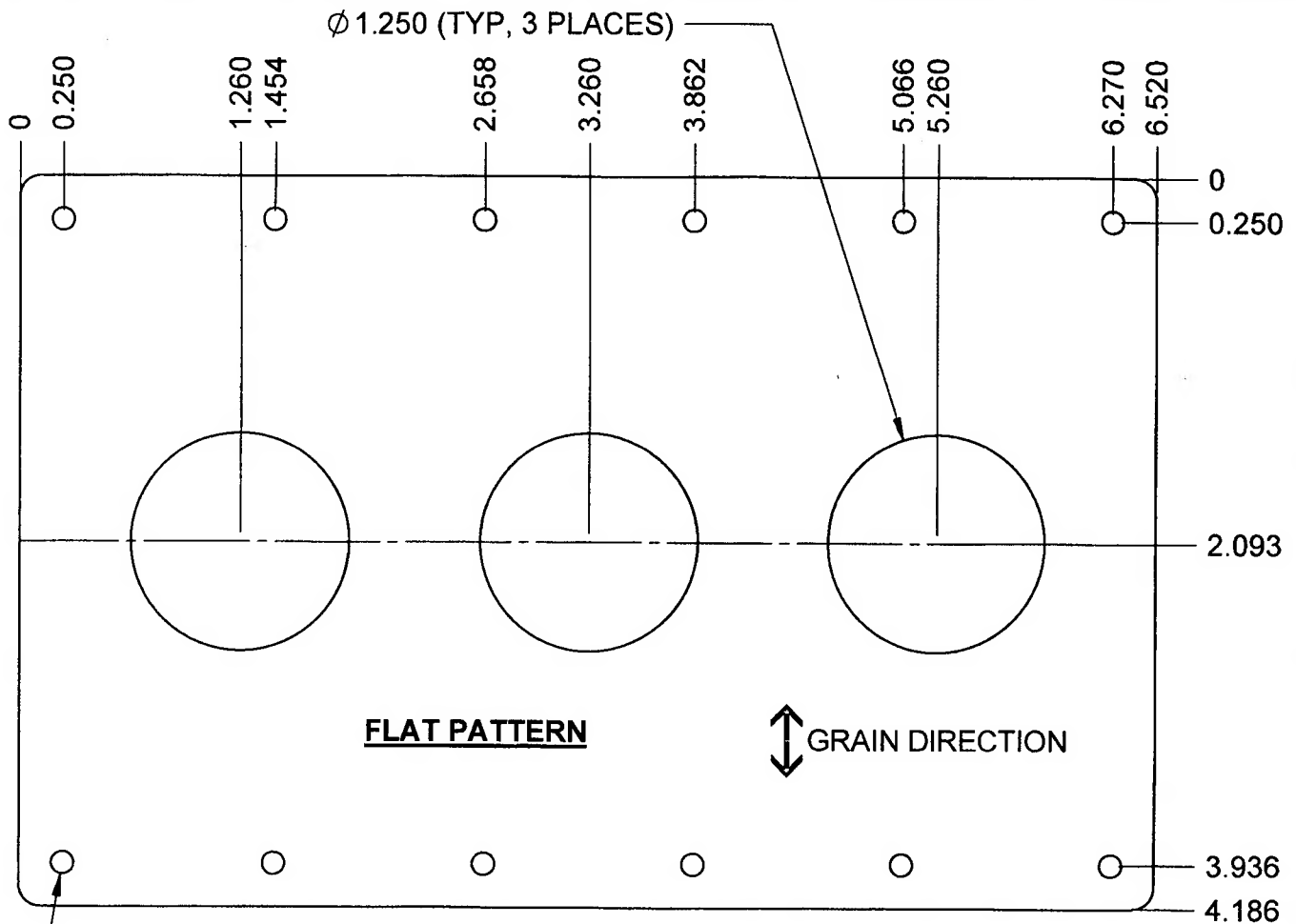


1) MATERIAL: 2024-T3 (QQ-A-250/4) 0.040 THICK (REF DART SPEC. M2024T3S.040)  
2) FINISH: ACID ETCH & ALODINE PER DART QSI 005 4.1  
3) BREAK ALL SHARP EDGES 0.005 TO 0.010  
4) PART IS SYMMETRIC ABOUT CENTERLINE  
5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED  
6) ALL DIMENSIONS ARE IN INCHES

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CHECKED <i>PH</i>	APPROVED <i>[Signature]</i>	DRAWING NO. <b>D3065</b>	REV. B SHEET 3 OF 5
DATE <b>06.05.23</b>		TITLE <b>STEP LEG ASSEMBLY</b>	SCALE 1:1

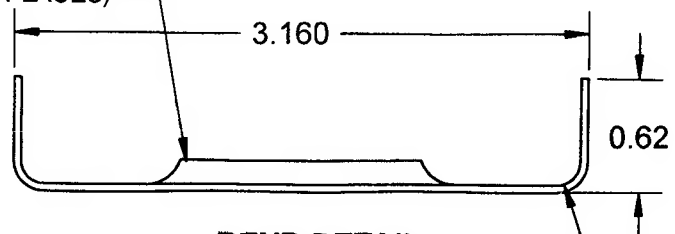


FLANGE AFTER TOWARDS SIDE  
SHOWN USING DT8174 (3 PLACES)

Ø 0.129 (TYP, 12 PLACES)

**RELEASED**

*06 06 20* *[Signature]*



**BEND DETAIL**

R0.125

*16h50*

### **D3065-3 STEP SPACER**

- 1) MATERIAL: 2024-T3 (QQ-A-250/4)  
0.040 THICK (REF DART SPEC. M2024T3S.040)
- 2) FINISH: ACID ETCH & ALODINE PER DART QSI 005 4.1
- 3) PART IS SYMMETRIC ABOUT CENTERLINE
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 6) ALL DIMENSIONS ARE IN INCHES

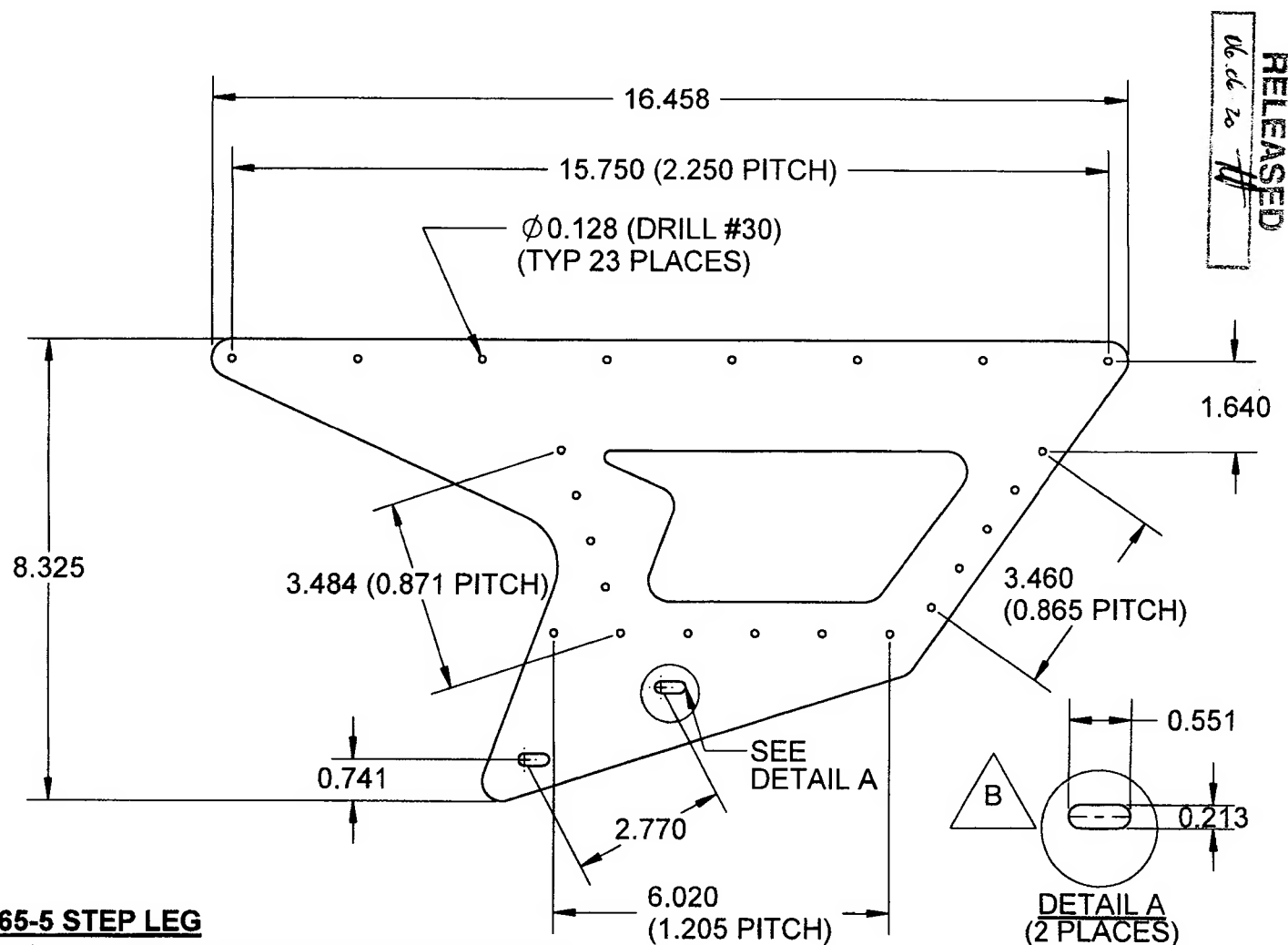
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85471



DESIGN	AP	DRAWN BY	CB	<b>DART AEROSPACE LTD</b>
				HAWKESBURY, ONTARIO, CANADA
CHECKED	PH	APPROVED	PH	DRAWING NO. D3065
DATE	06.05.23			TITLE STEP LEG ASSEMBLY
				REV. B
				SHEET 4 OF 5
				SCALE 1:3



### D3065-5 STEP LEG

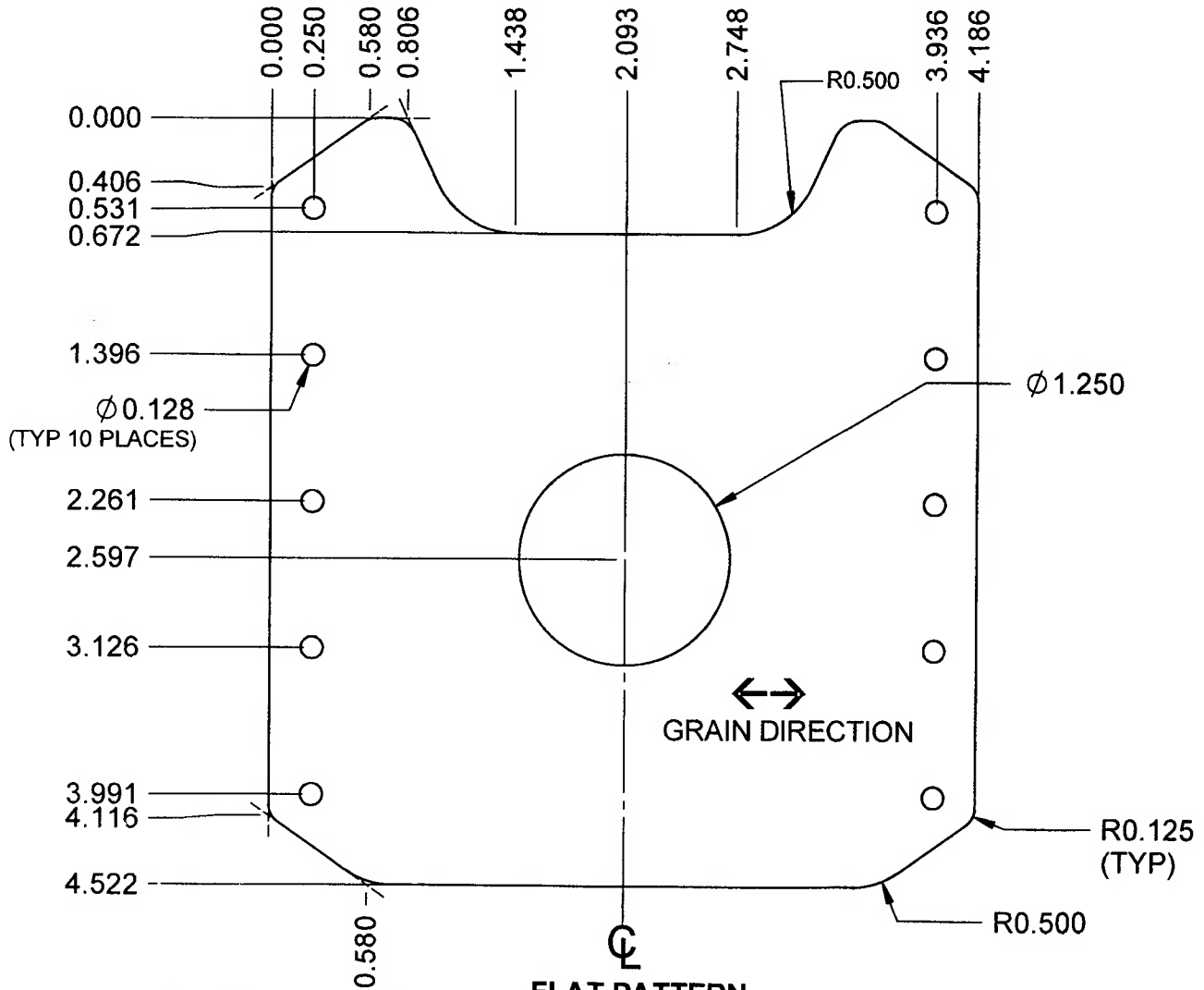
- 1) MACHINE PER DWG FILE "D3065-5.SLDPRT"
- 2) MATERIAL: 6061-T6 (PER QQ-A-250/11 OR AMS 4025 OR AMS 4027) 0.080" THICK (REF DART SPEC M6061T6S.080)  
OR  
5052-H32 (PER QQ-A-250/8 OR AMS 4016) 0.080 THICK (REF DART SPEC. M5052H32S.080)
- 3) FINISH: ACID ETCH & ALODINE PER DART QSI 005 4.1
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 6) ALL DIMENSIONS ARE IN INCHES

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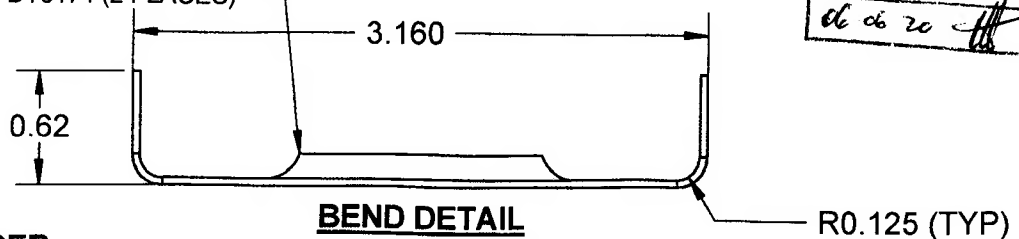
DESIGN <i>CP</i>	DRAWN BY <i>CB</i>	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>PH</i>	APPROVED <i>[Signature]</i>	DRAWING NO. <b>D3065</b>	REV. B SHEET 5 OF 5
DATE <b>06.05.23</b>	TITLE <b>STEP LEG ASSEMBLY</b>		SCALE 1:1



FLANGE AFTER BENDING TOWARDS  
SIDE SHOWN USING DT8174 (2 PLACES)

**FLAT PATTERN**

**RELEASED**



**BEND DETAIL**

R0.125 (TYP)

### **D3065-7 STEP SPACER**

- 1) MATERIAL: 2024-T3 (PER QQ-A-250/4) 0.040 THICK (REF DART SPEC. M2024T3S.040)
- 2) FINISH: ACID ETCH & ALODINE PER DART QSI 005 4.1
- 3) PART IS SYMMETRIC ABOUT CENTERLINE
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 6) ALL DIMENSIONS ARE IN INCHES

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*18/20*